FEDERAL RESERVE BANK BUSINESS REVIEW OF PHILADELPHIA

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Federal Reserve Policy and Social Priorities*

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Most of us here this evening are students of or practitioners in the money market. But we are also individuals caught up in the sweep of current events; stimulated and frustrated by the pressures of the times. I should like to speak about one aspect of these pressures—the demand for greater attention to social priorities—and its relationship to Federal Reserve policy. I speak as one who has some responsibility for monetary policy and concern for the viability and strength of the institution which determines and implements monetary policy. But what I am about to say does not necessarily reflect the official position of the Federal Reserve System—and this may be the understatement of the evening. Finally, I have some strong beliefs about the importance of the problem under discussion, but I have reached no hard and fast conclusions about its solution.

THE PROBLEM

Let me state the problem. Assume that you are an official of the Federal Reserve System. Congress (your boss) comes to you with the complaint that what you are doing when you attempt to curb inflation is to hurt certain people whom Congress thinks should not be hurt. How do you react?

I should like to analyze four possibilities:

(1) Hope the problem will go away;

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(2) Reply that it is not your fault;
(3) Recommend direct action by the Federal Government;
(4) Explore possibilities for modifying instruments of Federal Reserve policy.

THE HOPE-IT-WILL-GO-AWAY STRATEGY

I believe it would be irresponsible and shortsighted for a Federal Reserve official to think that the problem will go away. I say this not only because of my view of the responsibilities which such an official has but also because of my appraisal of the future.

A continuing responsibility of any Federal Reserve official is to see to it that the central bank does what it can to meet society's needs. As these needs change, the central bank must change.

I believe it is time for a reappraisal of the relationship between Federal Reserve tradition and the changing desires of society. The traditional posture of the Fed is to be concerned with the overall quantity and flow of money and credit. Society is increasingly concerned with the direction of the flow.

I am not competent to unravel all the forces behind these changing desires on the part of the public, but I think I can detect at least some of the surface manifestations. One is that the public's standards of performance for the economy and for policymakers have been rising, probably at an accelerating rate.

Another is that greater attention is being paid to subparts of the economy. Just as we have changed the focus of policy from catastrophic depressions to mini-recessions—that is, with regard to *magnitude* of economic fluctuations—we have placed under increasingly close scrutiny movements of various sectors of the economy.

A third is that the very success of the economy in generating affluence has afforded us the luxury of paying more attention to distribution. Concerns have turned increasingly to the question of how various groups fare in our economy, and I detect no reason for this trend to change in the foreseeable future.

Indeed, as I look forward to the 70's, I see pressures mounting. Society—particularly as today's youth move into positions of responsibility—will be even more insistent that the economy perform in a way that meets high standards of overall performance and accommodates sectoral and distributional needs.

In short, the problem will not go away.

THE IT-IS-NOT-OUR-FAULT STRATEGY

As we examine this possible response, we should be aware that there is much more involved than economics. Whatever the causes, recent periods of monetary restraint have been characterized by difficulties on the part of housing and state and local governments in obtaining funds. These are precisely the sectors containing highest social priorities and in which political nerve ends are close to the surface.

The general public and many legislators, probably more sensitive to political and social considerations than economic, are inclined to see tight money as the villain in the piece. Since it is tight money that frustrates the achievement of social objectives, the proposed solution is either to have easy money (usually put in terms of low interest rates) or to devise different instruments of policy.

The first proposal is simple for a Federal Reserve official to respond to. Whatever his inclinations, monetarist or fiscalist or something in between, he would not give up the use of monetary policy completely because of sectoral problems. Indeed, he would emphasize that greater success in using monetary tools for stabilizing the overall economy would reduce the magnitude and frequency of sectoral problems.

The second is more difficult for him. Rather than rushing off to devise new instruments of policy, he might argue that part of the difficulties experienced by certain sectors during periods of restraint is caused by imperfections of markets. He might urge politicians concerned about the uneven impact of tight money to direct their efforts toward freeing up markets. If markets were more open and competitive, funds might be more likely to flow to their "best" use.

But this kind of response often does not consider what must be done to make freer markets possible. Ceilings on interest rates must be modified so that borrowers and lenders can be more flexible in rates they pay for funds and rates they charge for the use of funds. Entry into markets must be made easier for various kinds of institutions. Restrictions which hamper economies of scale must be eased. Taxes must be adjusted to be more equitable among institutions.

I find it hard to be optimistic. Efforts to free up markets should be persistent, but progress will be slow.

I conclude, therefore, that there is a good deal of truth in the position that the uneven impact of monetary policy is not the Fed's fault. But it requires a good deal of economic sophistication to understand that. Possibilities of removing many of the imperfections in the market seem remote. And even if markets somehow were to be made perfect, the allocation of funds and resources might well not conform to social priorities.

In short, the it-is-not-our-fault strategy has a lot of economic validity behind it, but lacks something as a constructive response to this pressing problem.

THE LET-GOVERNMENT-DO-IT STRATEGY

Because the problem will not go away and because it is not enough simply to say that the uneven impact of monetary policy is not the Fed's fault, some Federal Reserve officials would advocate direct use of powers of the Federal Government.

This approach has a number of advantages claimed for it. It would adhere to the traditional view of the Fed's responsibilities; and as recent experience indicates, the Federal Reserve has its hands full in effectively carrying out these overall duties. Also, by avoiding the appearance of involving the Fed in the matter of social priorities, it would avoid embroiling the central bank in some political hassles and help to maintain its traditional position of "independence." As I shall point out in my conclusion, I am not sure these arguments are as black and white as they may seem, but for the moment let's accept them at face value.

What proponents of this position have not done very thoroughly, however, is to explore the implications of turning the job over to the Federal Government. Considerable thought needs to be given to criteria that should govern this approach.[1] One, obviously, is that it should work. An expenditure for a given purpose, for example, would channel resources more directly than would credit controls. The efficacy of other Governmental approaches would have to be examined. One possible shortcoming of Governmental action is cumbersomeness of decision-

[1] I do not mean to suggest, however, that similar criteria should not be applied to other approaches, including credit controls. As noted in the next section, application of the same criteria examined here raises similar questions about the efficacy of credit controls as for Governmental action.

making. Consider, for example, the recent difficulties of Congress in redistributing the tax burden.

A second criterion probably should be to minimize Government participation in markets. Some schemes would meet this criterion better than others. For example, those that would offer incentives to the private sector to allocate resources in accordance with social priorities would seem to be preferable to outright Government participation. The danger is that the Federal Government could end up dominating large parts of credit markets and the economy. During the recent period of monetary restraint, for example, a substantial proportion of new mortgage funds was supplied by the Federal Government. If one visualizes Government action as a built-in stabilizer coming into play only during relatively short and rare periods of monetary restraint and then unwinding as money eases, there is no particular cause for concern. But if one foresees a sustained period of pressure on resources, say, for the 70's, considerable care should be exercised in turning the problem of credit and resource allocation over to Government.

Direct Governmental action may, however, turn out to be the best solution. All I mean to say is that even a superficial consideration of pros and cons suggests that the case is not so clear-cut as some apparently assume.

THE NEW-INSTRUMENTS-OF-CREDIT-CONTROL STRATEGY

A fourth response to Congressional pressures would be to explore possible instruments of credit control. Despite its tradition, the Fed has had considerable experience in directing credit flows.[2] The main lesson it has drawn from this experience is that the task is distasteful and results have not been outstandingly successful. Unfortunately, however, the Fed has not tried by means of systematic analysis to formulate a body of theory from this experience.

Careful examination of the past might indicate, for example, the significance of the fact that attempts to deal with sectoral problems almost invariably have occurred in periods of economic and financial stress in which orthodox approaches appear inadequate. Again, if the need for such action were rare and brief, it might not be too serious to meet acute problems in the future by *ad hoc* efforts; but if the demand for sectoral control is to be more or less chronic, an approach based on sound theory is necessary.

This theory would help to tell us whether control of the flow of credit actually would significantly influence the direction of flow of resources. What we do know raises questions. Experience with real bills, for example, has convinced most economists that the central bank can have little effect on the flow of credit and resources by defining the eligibility of discountable paper.

In the realm of open market operations, the Fed recently resisted suggestions that it buy agency issues in order to funnel funds into housing. One of the reasons for its reluctance was that after a complex of adjustments were made, significantly more resources would not, in fact, go into housing.

So far as Regulation Q is concerned, no one can say precisely what would have happened in the absence of the ceilings that have prevailed. The fact that the Fed has issued a series of loophole-plugging regulations suggests, however, that the ceilings have not been very suc-

[2] For example, real bills, "direct action" in the late 1920's, margin requirements, moral suasion, Regulations W and X, "Operation Twist," the September 1, 1966 letter from the Federal Reserve to member banks, and Regulation Q.

cessful in directing the ultimate flow of funds and resources. This experience suggests an important lesson: restrictive controls like Regulation Q merely place an obstruction in the path of someone's objective without greatly changing his desire to get there. In a market economy, men are ingenious enough to find many new paths around an obstruction. As a consequence, the authorities must pile one obstruction on top of the other to try to close off each new path.

One proposal which has been receiving some attention recently is to impose different reserve requirements on different kinds of assets. Suppose, for example, it were desired to increase investment in housing relative to investment in plant and equipment. The Fed could set a high reserve requirement on business loans and a low requirement on mortgages. At existing interest rates, this would tend to increase the return on mortgages relative to the return on business loans. Then the very market forces which tend to frustrate restrictive kinds of controls, like Regulation Q, would work to induce banks to switch some assets out of business loans and into mortgages.

The difficulty, of course, is trying to figure out what would happen next. If this portfolio shift by banks resulted in a corresponding shift in real resources, the desired objective would be achieved. But, as you know, it is by no means clear that this second shift would occur.

Some economists at our Bank have been doing preliminary work to try to determine what the likely results of differential asset reserve requirements would be. So far they have been working entirely at the theoretical level, developing and manipulating a small-scale general equilibrium model.[3]

[3] D. C. Rao and Ira Kaminow, "Asset Reserves and the Real Investment Mix: A General Equilibrium Approach," Federal Reserve Bank of Philadelphia, unpublished manuscript.

So far the results are inconclusive but not very encouraging. They do show that chances of success would be greater if reserve requirements were placed on all intermediaries and not just banks; if business firms were denied the alternative of raising funds directly in credit markets; and if households were allowed to use mortgages only to finance houses. But even with all these conditions, it is difficult to rule out the possibility that the scheme would not work. Our staff is continuing to work with the model, and later results may suggest a more hopeful outlook for reserve requirements on assets. We expect also to evaluate and test other possibilities for influencing the flow of funds.

CONCLUSIONS

Let me review where we have come so far.

First, my observation of developing trends tells me that society will be demanding that more control be exercised over the allocation of resources. The problem will not go away. This outlook raises important questions for the Federal Reserve, which has traditionally disavowed responsibility for allocating credit and, hence, resources.

Second, although there is much economic validity to the position that the uneven impact of monetary policy is not solely the Federal Reserve's fault, much of the public and many legislators probably believe otherwise. They feel that these impacts do not conform with social priorities. And although the allocation of funds is considerably influenced by market imperfections, I am pessimistic about the degree of success we can expect in removing them. Even if imperfections were completely removed, allocation might well not accord with social priorities.

Third, one possible way of directing funds and resources in accordance with social priorities is through Governmental action rather than by credit control. This approach has several advantages, especially that of determining priorities by elected representatives rather than by the central bank. But more careful examination may raise questions about how effectively and efficiently the Government can direct resources. Moreover, depending on how it is done, there is a possible disadvantage over time of Federal domination of considerable parts of credit markets and the real economy.

Fourth, the Federal Reserve's past experience in directing flows has not been analyzed systematically, and there is no adequate theory on which to base policy. Results are generally believed to have been less than completely successful, however, and the present state of the art is rudimentary.

Given this train of thought, what do I conclude about whether the Federal Reserve should change its traditional focus of policy to include more attention to the direction of credit flows?

I should like to think that such a step might not be *necessary.* More success than we had in recent years in our overall stabilization functions could minimize severe distortions in resource allocation caused by inflation and recession.

On the other hand, I should like to think that if the need were to become great enough, such a step would be *possible.* This is, first, a matter of philosophy. Few people, myself included, relish the idea of Federal Reserve involvement in the allocation of resources. The task would be difficult and thankless. It would get uncomfortably close to issues where political interests are strong. And it would raise questions about the propriety of the involvement of an organization traditionally aloof from partisan politics and "independent."

These are all formidable objections. As you may gather, however, I am less ready to dismiss a philosophy of involvement than are some others. The Federal Reserve is already influencing the allocation of resources in carrying out its overall functions. Moreover, it does not need to *set* priorities in order to help *achieve* them. Congress exercises considerable surveillance over the Federal Reserve in its attempts to meet its overall objectives. The Fed could function in a similar way with respect to Congressionally determined objectives for the allocation of resources.

As for Federal Reserve "independence," I believe the Federal Reserve can continue as a viable institution in the long run only if it is responsive to changing public demands. If the Fed is insensitive to the allocation of resources, I wonder whether it can continue as an effective, "independent" central bank with sufficient political and popular support to be able to carry out its traditional stabilization functions.

In short, I believe a good case might be made —philosophically—for involvement. My main difficulty, however, comes with the practical question of our ability to do the job. Much work needs to be done in analyzing past experience and applying sophisticated techniques of analysis to the problem. Existing controls should be analyzed; specifically, immediate attention should be devoted to revamping or dismantling Regulation Q. Alternative methods of allocating resources should be compared.

So the position I would recommend the Federal Reserve take on the question of allocating funds would go something like this: Our main job has to do with growth and stability of the overall economy, and greater success in doing this job will help to reduce problems in particular sectors of the economy. Nevertheless, we can not ignore the effects of our actions on sectors of the economy. Although the fact that certain groups are hurt when money is tight is not entirely our fault (and, of course, *someone* must be restricted if a restrictive monetary policy is to be effective), we recognize that this may not be a very constructive position. Everything possible should be done to make markets more competitive, but we realize that this is difficult and that even in perfectly competitive markets, funds and resources might well not be allocated in accordance with social priorities. We do not know as much as we would like about how effective credit controls may be in directing resources, but past experience does not seem outstandingly successful. Direct Governmental action to allocate resources seems preferable in a number of ways to credit controls, but there are also disadvantages in this approach which should be weighed. Although we are not anxious to get into the permanent business of directing credit flows, and although this would be a departure from our tradition, we recognize that this might be considered a legitimate function of the Federal Reserve so long as priorities are determined by elected representatives rather than by the central bank. Therefore, we hope to explore possibilities sufficiently to be able to evaluate alternatives and to offer positive recommendations. These probably will call for action on several fronts and by several groups—Government, the Fed, and private industry—if the problem is to be solved.

Housing the Poor: A Frontal Attack

by W. Lee Hoskins

Not so long ago, the American Dream was a "chicken in every pot and a new car in every garage." Judging from today's bumper-to-bumper traffic and fight against flab, reasonable success has been achieved in this goal. Unfortunately, a number of Americans are finding the garage crumbling around the family car and no water for the pot. The crowding together of these unfortunates in decaying abodes has given rise to another national objective. This new goal, first promulgated in the 1949 Housing Act and reiterated in the 1968 Housing Act, is to put every American in a "decent" home.

Attempts to achieve this goal through maintenance of high building standards, stricter code enforcement, and the tearing down of "indecent" or old houses may fail to tap the root of the problem—poverty. The underlying issue may be that many Americans cannot "afford" the kind of housing policymakers think they ought to have. In this case, it might even be counterproductive for society to impose its concept of "decent" housing on its poorer members without providing them with the means to procure it.

The choice for society is painfully clear—accept "indecent" housing for some Americans, or remove the conditions which lead to low-quality housing. If we opt for the latter, which we seem to prefer, then the degree to which we are successful in achieving "decent" housing for the poor will depend crucially upon the means chosen for improving the quality of housing.

THE FUZZY MATTER OF DECENCY

"Decent" housing for all Americans by 1978 is the goal Congress has set for the nation. The concern of Congress clearly is not the number of available rooftops, for there are roughly 66 million units to lodge about 60 million households. The concern is for approximately eight million households that occupy "indecent" housing. To accommodate this group, to take care of an estimated 13.4 million new households to be formed during the decade of 1968-1978, and to replace the expected loss of several million units, Congress calculates that about 26 million new and rehabilitated units will be required.

The notion of what "decent" housing is, of course, varies among individuals and over time. What some may settle for as "decent" will surely strike others as indecent. The current standard of decency with respect to lodging, as conceived by housing policymakers, is that a place to live shall not be crowded, shall not be dilapidated, and shall have adequate plumbing facilities.[1] Such a standard is thought to be a bare minimum for decent living.

Yet a house or an apartment reflects much more than the pipes, concrete, and wood of which it is made. In selecting a place to hang their hats, people consider the whole bundle of services associated with the structure and its location, such as size, quality, facilities, style, school district, and neighbors. When a family purchases or rents "housing," it is consuming a flow of services provided by that place to live. And the amount of "housing" a family can consume per year is limited by its income.

The poorer family, just as the more well-to-do, is faced with the endless problem of deciding how to parcel out a limited income over an unlimited number of competing wants. However, the poor household is unable to procure both the *quantity* and *quality* of goods and services to which the wealthier ones lay claim. Instead of a pound of steak per week, the less well-to-do might purchase a pound of hamburger or just a few ounces of steak. And so it goes with housing. The poor family, because it is poor, may settle for less housing in terms of space, quality, or both and thereby inhabit a place to live that does not meet policymakers' and others' standard of decency.

Are the poor in fact "indecently" housed? The Table indicates that they are, and disproportionately nonwhite and nonurban as well. The fact that the majority of people residing in indecent abodes is poor suggests an answer to the question of why poor-quality housing exists in so wealthy a nation. Some low-income people simply "cannot" consume the quality of housing policymakers think they ought to have. If the goal of "decent" housing for all is to be seriously pursued, then raising incomes would seem to be a necessary requisite for success. To see why, examine the operation of the housing market.

THE HAND-ME-DOWN MARKET

The poor can rarely purchase newly constructed housing, since building codes require it to be of high quality and, hence, expensive.[2] Instead,

[1] Crowded, dilapidated, and adequate plumbing facilities mean the following: A house that is not dilapidated provides safe and adequate shelter and does not endanger the health, safety, or well-being of the occupants. Dilapidated has one or more critical defects (holes, open cracks, rotted, loose, or missing material over a large area of the foundation, walls, roof, floor, or ceilings, and extensive sagging of floors, walls, or roof); or has a combination of intermediate defects in sufficient number or extent to require considerable repair or rebuilding; or is of inadequate original construction. The minimum plumbing facilities consist of a sound system for piped hot water and a private flush toilet and bathtub (or shower) inside the structure. Both the condition of a housing unit and the type of plumbing facilities are considered measures of the quality of housing (standard vs. substandard). Those living in overcrowded homes, even though the house itself may be very sound, are also inadequately housed. A house is typically designated as overcrowded if it houses greater than one person per room. Generally, overcrowding can be correlated with substandard living conditions. Source: *Report of the President's Committee on Urban Housing,* Vol. I, Washington; 1967.

[2] Mobile homes are notable exceptions. They offer the less well-to-do a shot at "new housing." However, they are coming under severe zoning restrictions which may tend to limit their availability.

WHITE AND NONWHITE HOUSEHOLDS OCCUPYING SUBSTANDARD HOUSING BY INCOME GROUP, 1960

Annual income[1]	Urban White (per cent)	Urban Nonwhite (per cent)	Nonurban White (per cent)	Nonurban Nonwhite (per cent)
Under $2,000	21	45	45	87
$2,000 to 2,900	15	35	33	77
$3,000 to 3,900	12	28	25	65
$4,000 to 4,900	9	21	18	56
$5,000 to 5,900	6	16	13	49
$6,000 to 6,900	4	14	10	43
$7,000 to 7,900	2	9	7	36

[1]Income is for the calendar year 1959, and is limited to that received by the primary family or primary individual.

Source: GE TEMPO, "United States Housing Needs: 1968-78," *Report of the President's Committee on Urban Housing—A Decent Home* (1967), p. 44.

they upgrade their housing by occupying dwellings vacated by others. The process works like this: When incomes rise faster than housing costs, people tend to move to better neighborhoods or purchase newly constructed housing. As the more well-to-do families move into better housing (which may just be more space per person), their old housing becomes available to others who wish to upgrade their living quarters. As more high-quality housing is sought, its price will rise relative to that of poor-quality housing, and more will be provided. Construction firms will be stimulated to build new housing, and landlords will find it in their interest to turn some low-quality housing into high-quality by repairing structures, adding rooms, and adding attractive features, such as modern kitchen and bathroom facilities.

However, everyone's income does not rise relative to housing costs. The less fortunate may choose to consume poor-quality housing. They may do this by failing to maintain existing dwelling or by moving into less attractive neighborhoods or "indecent" dwellings. If more people choose to consume less housing, in terms of space, quality, or both, the price of poor-quality housing would rise relative to that of high-quality. Landlords would then be induced into letting quality of some existing buildings slide by disregarding maintenance or perhaps by partitioning off rooms.[3]

So people, by seeking different housing qualities in competitive markets, play a dominant role in determining the type of housing available. In theory they bid up prices of the kind of housing they prefer more relative to the types of housing they prefer less—and income crucially influences this choice. This price information tells those offering housing what type to provide. Providers of housing, aiming at increased wealth, respond to individual's demands for housing, whether it be for high or low quality. Hence, market prices for housing provide landlords and builders with both the information and incentive to supply the housing most highly valued by consumers, *given their incomes*. Viewing the operation of housing markets in this manner is helpful in understanding why some landlords maintain and restore old buildings, and others let them deteriorate.

GOVERNMENTAL ACTIONS: BENEFIT OR BANE?

Superimposed on the operation of the private housing market is a hodgepodge of Governmental programs. The spawning grounds for

[3] For development and analysis of these arguments, see Richard F. Muth, *Cities and Housing* (Chicago: University of Chicago Press, 1969), pp. 115-134.

large Federal incursions into housing were the depression years of the 1930's, when massive public housing projects were held to be justified on the basis that they created jobs. Since then, programs have been enacted for the purpose of clearing slums, improving the tax base of central cities, and helping the poor.

Biases in the Market? Some of these more recent Governmental actions are based on a suspicion that there are biases operating in the private housing market that result in "too much" low-quality housing. These biases are held to range from tax policies that favor keeping old dwellings in existence; "side effects" associated with property use that induce property owners to undermaintain their buildings; racial discrimination that concentrates minorities in ghettos; and slumlords that fail to take account of the "costs" or problems slums might impose on the rest of society.[4] However, it is by no means clear that the types of Governmental actions taken to offset these alleged biases are conducive to an improvement in the quality and quantity of housing available to the poor.

Actions taken by governments may be divided into those that set standards for housing and those that are aimed at subsidizing production and consumption of housing. Specific programs, however, may entail both.

Standards. Stringent enforcement of standards, such as building and occupancy codes, reduces the housing opportunities available to the poor, since they result in both the removal of old buildings from the amount of available housing and the renovation of others into high-quality and hence, expensive units. If landlords comply, they would incur increased expenses and would attempt to charge higher rents. Higher rents would result in some households seeking other shelter in areas where quality standards and rents are lower, thereby simply spreading or relocating slums. If landlords are unable to get higher rents, the profitability of low-quality relative to high-quality housing falls. Consequently, over time, fewer low-quality houses will be provided, leaving fewer options for the poor. Moreover, some owners and landlords may not find it profitable to comply at all and may abandon the structure; put it to another use, such as storage space; or demolish it and sell the land. Whatever the case, such policies, in effect, raise the cost of housing to the poor.[5]

Strict enforcement of standards is not only a costly business when it seeks to maintain a higher quality of housing than families in the area choose or can afford to pay, but also the result may be condemnation, clearance, and redevelopment. The practice by local redevelopment authorities of acquiring and demolishing large tracts of poor-quality housing imposes hardships on the poor in general. It reduces the amount of housing within the grasp of low-income families. Again, some of those vacating the condemned structures will seek poor-quality alternatives in other areas, only relocating the slums. The poor throughout the whole area will have less housing from which to choose. The relative price of low-quality housing would rise, and landlords would have incentive to convert existing high-quality structures into poor-quality housing. If code enforcement prevents this conversion, the poor simply crowd together someplace else, each consuming less housing, so lowering the average quality of such housing. Although the immediate effect of wiping out a

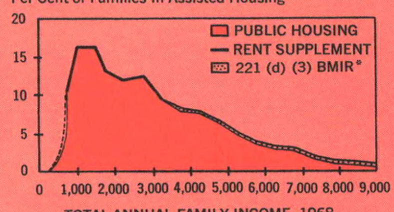
[4] For an explanation of these "biases," see Jerome Rothenberg, *Economic Evaluation of Urban Renewal* (Washington: Brookings Institute, 1967), Chapter 3.

[5] Muth, *loc. cit.*, pp. 330-335.

slum is to reduce the number of "indecent" houses, it also makes the poor worse off.[6]

Subsidy Programs. More than code enforcement policies and renewal programs, housing subsidies do help some poor (and higher income groups also) achieve better housing. Government subsidizing of housing, on either the production or consumption side, means those benefiting from the subsidy can consume more housing or other goods and services than they would be able to otherwise. Currently, a bewildering number of Federal programs aid people in this fashion. Most of these are administered by the Department of Housing and Urban Development (HUD), but the Veterans Administration, the Farmers Home Administration, and the Department of Defense all have significant housing programs of their own. (See box for explanation of major HUD programs.)

The most important of these programs, on the basis of size, is HUD-sponsored Public Housing. Over 90 per cent of the Federally subsidized rental housing units available for occupancy in 1968 were provided by this program, with the remainder taken care of by rent supplement and interest subsidy programs. The biggest, however, is not always the best. While Public Housing does aid *some* low-income people, it fails to touch the poorest of the poor. (See Chart.) These families cannot even pay the low rents required by Public Housing. Further-



*Interest-Rate Subsidy to Builders
Source: George Von Furstenberg and Howard R. Moskot, "Federally Assisted Rental Housing Programs." **The Report of the President's Committee on Urban Housing** (Technical Studies, Vol. 1, 1967), p. 163.

more, Public Housing projects, along with renewal programs, may result in the removal of more housing units than they provide. Hence, those people unable to get into the project are worse off than they were before. They must crowd together in the remaining slum areas or move to new locations where landlords can respond to their demands for housing by allowing high-quality units to deteriorate into low-quality through overcrowding or partitioning off rooms, for example.

Two relatively new directions in attempts to help the poor into "decent" housing are the subsidizing of interest-rate programs to low-rent housing developers and the subsidizing of rent programs. These programs are still too new and too small for gauging their impact on housing. However, while these programs may not be the ideal solution, they have fewer of the drawbacks associated with other major programs and, hence, must be considered a step in the right direction. Moreover, the poor may receive some help in the future from Operation Breakthrough programs and from the Emergency Home Finance Act of 1970.

[6] Nevertheless, some code enforcement and renewal programs may be justified on economic grounds. While codes can be used by local authorities to prevent landlords and builders from meeting the housing demands of the poor, they can also be used as a method of preventing property from being run down below the level dictated by market forces. The problem, of course, is to separate these uses. Renewal programs can be justified when it is shown that private redevelopment or reconstruction does not take place when it is economically efficient to do so. This situation might occur if the way in which individual owners maintain their property substantially depresses the value of surrounding properties. This assumes that (1) the owners cannot reach mutual agreement to improve their properties so that each individual owner would benefit (zoning restrictions and codes can be a form of "mutual agreement"); and (2) that an enterprising individual or private corporation cannot buy up the properties in question and maintain them at a profitable level. See O. H. Davis and A. B. Whinston, "Economics of Urban Renewal," *Law and Contemporary Problems* (Winter, 1961), pp. 105-117.

A LOOK AT MAJOR HUD SUBSIDY PROGRAMS

Public Housing. Begun in 1937, exclusively a rental program, Public Housing places responsibility for development, ownership, and management of subsidized rental projects in the hands of independent local government agencies called housing authorities. A local housing authority cannot receive Federal assistance without the approval of the HUD office of Housing Assistance Administration and the local government. A housing authority can build only within the boundaries of the jurisdiction which founded it, and only where HUD-certified Workable Programs for community improvement exist. The project is financed by long-term local bonds which are tax-exempt, with the Federal Government covering the costs of retiring the bonds. The Federal Government may pay a local government $120 per year for families falling in certain categories (elderly, displaced, etc.). The projects don't pay local taxes but instead pay lower amounts in lieu of taxes. Admission to housing projects is restricted to families whose incomes are below the limits set by the local housing authority under Federal guidelines. Continued occupancy also is contingent upon income limits, usually 125 per cent of admission limits.

Below Market Interest Rate Programs. Two programs use the same subsidy technique. Begun in 1959 and administered by the Housing Assistance Administration, one subsidy is a direct loan from HUD to sponsoring nonprofit corporations. The 1968 Act authorizes interest-free loans to cover preconstruction expenses of nonprofit housing sponsors. It also allows the new programs of subsidies to reduce mortgage interest rates to as low as 1 per cent to assist low-income families in purchasing or renting housing. Only elderly or handicapped persons are allowed to live in the projects, and admission income limits are used to screen applicants. Projects built under this program are not restricted to the same jurisdictions as those of the HUD-approved Workable Programs.

Begun in 1961, the other allows profit-seeking corporations as well as nonprofit corporations to own the projects. FHA administers and controls the projects. Admission income limits are usually several thousand dollars higher than that of Public Housing, usually 135 per cent of Public Housing admission levels, and admission is not restricted to the handicapped and elderly.

Rent Supplement. Under this program, initiated in 1965, the tenant family pays 25 per cent of its income toward rent, while the Federal Government pays directly to the landlord the difference between market rent levels and the tenant's payment. The program is restricted to families whose incomes on admission are below the eligibility limits for Public Housing in the same locality. FHA administers the program, but the project must be financed with a private mortgage at market interest rates. Units may be rented to anyone, but only those with low incomes (HUD-determined), few assets, and are members of a deserving group (elderly, handicapped, etc.) may receive subsidies.

Rental Housing Program. This program is designed to replace both the market interest rate programs. Similar to the Rent Supplement Program, this plan has tenants pay 25 per cent of their income, with the Federal Government supplementing the difference between the tenant's payment and market rents. However, the maximum Federal payment on a unit lowers the rent to the level which would be achieved had the project been financed with a 1 per cent mortgage. Therefore, the subsidy under this program is not as deep as that under the Rental Supplement Program. To be eligible, a family's income must not exceed 135 per cent of the limits for admission to Public Housing projects, calculated with a deduction of $300 for each minor person in the family.

Homeownership Program. Assistance under the Homeownership Program is restricted to new or substantially rehabilitated units. Private builders design the homes and submit the plans for FHA approval prior to construction. Eligible buyers finance their purchase with FHA-insured market rate mortgages from private lenders. The Federal Government pays part of the homeowner's mortgage payments with the maximum subsidy reducing the homeowner's payment to that which he would owe if his purchase had been financed with a mortgage having a 1 per cent interest rate. All families must donate at least 20 per cent of their incomes to paying off the mortgage. Eligibility requirements are the same as those of the Rental Housing Program.

Rehabilitation Subsidies. A few minor programs can be used only for rehabilitation. Some can only be applied within limited Urban Renewal or Concentrated Code Enforcement areas. One provides 3 per cent loans to homeowners, while another is a grant program for low-income homeowners. The 1968 Act increases the maximum rehabilitation grant under this plan from $1,500 to $3,000.

On balance, it is difficult to say whether the sum of Governmental programs with respect to low-income families have been helpful. Certainly, some families are better housed. The plight of others, however, is unchanged or worsened because of these actions. Current housing policies not only often work at cross purposes, but also may succeed only in attacking the *symptom*—indecent abodes—rather than the *cause*—poverty or low income.

TAPPING THE ROOT OF THE PROBLEM

"Decent" housing is not sought for its own sake. Its ultimate objective must surely be to help people, in particular, the poorer members of society. Consequently, many are asking why not help the poor directly by alleviating poverty with cold cash? After all, the vast majority of people obtain decent housing without the aid of special "decency" legislation or programs. The poor-no-more would be able to consume more housing—better quality, more space, and nicer neighborhoods—if they so chose without having to wade through current bureaucratic procedures and programs which may or may not help them anyway. Moreover, money could be used to purchase other items the recipient family might value more than better housing, such as food, health care, and transportation. Who knows better what the poor "need" more than the poor themselves? The cash transfer could take the form of a negative income tax or income maintenance scheme with built-in work incentive measures and be large enough to replace most existing welfare programs.[7]

On purely economic grounds, some might argue that the poor would not spend enough of this money on housing, and low-quality housing or slums would continue to impose extra costs on the community in the form of added police, fire, and health expenditures. Should this happen, a tax or building repair code for such housing could be implemented. The tax or code imposes the extra cost on owners and would induce them to improve the quality of housing or to dispose of it. More importantly, inhabitants would now have the cash from the subsidy to pay for the better quality. Furthermore, an income subsidy might make it easier for the urban poor to spread themselves throughout middle-class neighborhoods rather than being concentrated in "projects" or ghettos that can place a heavy burden on nearby school systems. To argue that slums are responsible for social problems—high crime rates, riots, and poor

[7] A welfare reform measure currently before Congress, in fact, calls for a direct cash payment to poor families. However, the proposed amounts are quite small. Moreover, this cash transfer plan would just be tacked on to the existing Federal housing, health, food, and other welfare programs rather than replacing them.

public health—is to beg the question. The overriding issue is why slums exist at all. A large part of the answer, of course, can be found in the poverty of the inhabitants. And an income subsidy directly and even-handedly might tackle this problem.

An income supplement provided by a negative income tax or income maintenance scheme might be the ideal economic solution for dealing with the problem. Yet several objections outside the sphere of pure economics might be raised which would prevent its implementation. First, since it is not likely that all of the income supplement would be spent on housing, the size of the supplement would have to be larger than the amount policymakers deem necessary for decent housing. Hence, Congressional appropriations for the poor might have to be increased substantially. Another possible objection, more philosophical in nature, is that the poor cannot be trusted. That is, the poor might spend the added income on "conspicuous consumption" rather than on housing or things they really "need." But fears that expenditures on housing will not jump when incomes are raised seem unjustified on the basis of past experience.[8]

Nevertheless, if the position is taken that the poor cannot be trusted to spend wisely or that the costs of an unfettered income supplement is too high to have a chance of passing the legislative gauntlet, a voucher system (quite similar in spirit to the existing but undernourished Rent Supplement Program) could be employed as a workable alternative to an income supplement plan. Instead of cash, a poor family would be given a monthly voucher for a stated amount made payable to the landlord. If the poor family owns its own home, and the structure is substandard, the voucher could serve as a basis for obtaining a loan from a bank or insurance company for bringing the house up to standard quality. The voucher insures that the poor will spend the whole subsidy on housing, and, hence, the size of the subsidy necessary to achieve a particular level of housing quality would be smaller than under a no-strings-attached, cash supplement. However, by tying the subsidy to housing, policymakers might force the poor to consume more of that commodity than they would voluntarily choose. And such a policy, implying the poor do not know what is best for themselves, seems to many unbefitting the Age of Aquarius. Yet both the income supplement and housing vouchers would appear to stand a better chance of improving the living conditions of all the poor than the current conglomeration of housing policies.

Perhaps the most important idea to be gleaned from over 35 years of housing programs and policies is that there is no cheap solution to the housing problems of the poor. Resources, not laws alone, make for better housing. And providing resources through income subsidies or some other direct means may prove to be the least expensive and most successful means over the long haul, for they reach directly to the root of not only housing problems, but also many other social ills plaguing society today.

[8] This statement is supported by a number of empirical studies; for example, see T. H. Lee, "The Stock Demand Elasticities of Nonfarm Housing," *The Review of Economics and Statistics* (February, 1964), pp. 82-89; Richard F. Muth, "The Demand for Nonfarm Housing," in *The Demand for Durable Goods*, Arnold C. Harberger, ed. (Chicago, Illinois: University of Chicago Press), pp. 29-96; Margaret C. Reid, *Housing and Income* (Chicago, Illinois: University of Chicago Press, 1962); and Richard F. Muth, *Cities and Housing* (Chicago University of Chicago Press, 1969).

Operation Breakthrough

by Evan B. Alderfer*

Operation Breakthrough is the short title of the current heroic effort to moderize the art of residential construction.

Two years ago, Congress took a hard look at the housing situation and came up with an estimate that 26 million housing units had to be built in the 1968-1978 decade, of which number 6 million were to be for low- and moderate-income families. Twenty-six million is what the figure came to if adequate provision were to be made for homes of newlyweds, for the decade's inevitable deterioration of existing structures, for the replacement of unsanitary and unsightly buildings, and for the elimination of overcrowding.

To achieve this goal, Congress assigned the task to the U.S. Department of Housing and Urban Development, usually referred to as HUD. The Secretary of HUD and his staff are busily engaged in what was and still is widely regarded as the impossible.

IMPOSSIBLE?

Why impossible? Well, for one reason, 26 million housing units in 10 years would be at the rate of 2.6 million a year, and the best the industry has ever done is 1.9 million housing starts. That was in 1950. Last year, in the face of a growing housing shortage, there were only 1.5 million starts. The 1970 rate will be even lower.

Residential construction is in deep trouble—some of its own making, some not. As an industry, it is poorly organized. Most of the construction is done by thousands of small contractors, the majority of whom have on their

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payroll fewer than four employees.[1] Each year a typical contractor may put up eight or ten houses by hiring a dozen or more subcontractors —one for the work in wood, another in stone, another in glass, etc. Contracting requires little capital, so it is easy to enter the business and just as easy to drop out. The turnover is terrific. Materials are bought in small quantities. Workers—generally mature, skilled, and high-priced —roam from one job to another, from one contractor to another. Work is intermittent—seasonally, cyclically, meteorologically. Young job-seekers find equal or better income in other industries not burdened with long apprenticeship.

The industry is seriously hampered by a crazyquilt of building codes. Good building codes serve a good purpose, but too many of the codes are out of date and serve only to perpetuate the use of conventional materials and ancient methods. The very abundance and diversity of codes stand in the way of cost reduction by preventing standardization of methods and procedures.

The industry is hobbled by the scarcity and high price of urban land, for which the contractors and unions cannot be blamed. Within the past two decades, the cost of raw land has jumped more than any other major housing cost. And the obvious solution of using less land is blocked in many urban and suburban communities by zoning ordinances that require large-sized building lots. Such barriers serve to keep out lower income families, especially young couples whose children would soon require schools, playgrounds, and other facilities. *Ergo,* higher taxes. Land development costs—streets, paving, utility lines—have also risen rapidly. These, too, are costs over which the builder has very little control.

Such are the infirmities of the residential construction industry and the roadblocks in its pathway. Build 26 million units by 1978? "Quite frankly, we came to the conclusion that it is impossible for two reasons," said one of the country's largest homebuilders at last year's hearings before the Subcommittee on Urban Affairs. The two reasons cited: (1) the critical shortage of labor (skilled craftsmen); (2) the millions of people who have already been priced out of the market.

OPERATION BREAKTHROUGH IN OPERATION

It does seem a bit strange that, in a country famous for its large-scale mechanized production, the manufacture of houses continues to operate as a small-scale, localized, early 19th Century handicraft business. This may be one reason why some European countries are out-building us. In recent years we were producing dwellings at the rate of only 7.4 units per 1,000 inhabitants, which was in contrast with 11.8 in Sweden, 10.1 in West Germany, 8.9 in the Netherlands, 8.3 in Denmark, and 8.0 in France. The Russians, with a rate of 9.8 are also ahead of us, but for size and quality, their structures would not charm our buyers.

In the face of a serious shortage of construction labor and a Congressional mandate to inaugurate a program aimed at encouraging and testing new technologies in housing construction, HUD's Secretary has undertaken the task of enlisting United States' know-how and capital to supply our national housing needs. What HUD is trying to do is to Americanize residen-

[1] There are a small number of big firms, such as Levitt & Sons, Inc., and National Homes, which can produce over 5,000 and 11,000 units a year, respectively, but the 50 largest firms together account for less than 15 per cent of the annual production.

tial construction, to consolidate the widely scattered, fragmented, uncoordinated hammering and sawing into a unified 20th Century mass-production industry.

Houses are made of sticks and stones, but do they have to be made stick by stick and brick by brick? If automobiles were made at local garages by journeymen wheelwrights, tinsmiths, glassblowers, and painters, they would doubtless be fewer in number and cost $20,000 and up, same as houses.

Operation Breakthrough is an apt label because the plan is an attempt to "break through" archaic procedures, traditional materials, and conventional thinking. With the introduction of new materials and new procedures on an experimental basis, HUD is embarking upon a vast research and development program.

THIS IS HOW

In June, 1969, HUD issued invitations to interested firms and individuals to submit proposals for a complete housing system that can produce houses in volume. There was a gratifying response of nearly 550 proposals. In February, 1970, HUD announced the names of 22 housing system producers selected to build prototype housing units. (See box.) The head offices of these firms are widely scattered among 11 states, the District of Columbia, the Common-

THE 22 PROTOTYPE BUILDERS

Aluminum Company of America	Pittsburgh, Pennsylvania
Ball Brothers Research Corporation	Boulder, Colorado
Henry C. Beck Company	Atlanta, Georgia
Boise-Cascade Corporation	Boise, Idaho
Christiana Western Structures	Los Angeles, California
Descon/Concordia	Montreal, Canada
Forest City Enterprises, Inc.	Cleveland, Ohio
General Electric Company	Philadelphia, Pennsylvania
Hercules, Inc.	Wilmington, Delaware
Home Building Corporation	Sedalia, Missouri
Keene Corporation	New York City
Levitt Technology Corporation	Lake Success, New York
Material Systems Corporation	Washington, D.C.
Module Communities, Inc.	Yonkers, New York
National Homes Corporation	Lafayette, Indiana
Pemtom, Inc.	Bloomington, Minnesota
Republic Steel Corporation	Youngstown, Ohio
Rouse-Wates	Columbia, Maryland
Scholz Homes, Inc.	Toledo, Ohio
Shelley System	San Juan, Puerto Rico
Stirling-Homex Corporation	Avon, New York
T W R Systems Group	Redondo Beach, California

wealth of Puerto Rico, and Canada. Most of the companies have business and professional associates—specialists in architecture, engineering, construction, industrial management, and psychology.

More than 2,000 prototype housing units, for all income levels, will be built in the testing and demonstration phases of the program. Construction was scheduled to start in the summer of 1970 at various sites throughout the country. (See box.) Most of the selected producers will build their prototype housing units on at least two sites, and all sites will contain a variety of housing types and price levels. Prototype models will include: single-family detached units; single-family attached row houses; multi-family low-rise units; and high-rise buildings. The building materials in the prototypes include concrete, wood, metal, and plastic.

THE PROTOTYPE BUILDING SITES[2]

Jersey City, New Jersey
Memphis, Tennessee
Macon, Georgia
St. Louis, Missouri
Indianapolis, Indiana
Kalamazoo, Michigan
Sacramento, California
Seattle, Washington
King County, Washington

[2] Wilmington, New Castle County, Delaware, and Houston, Texas were originally included but had to be eliminated owing to a Congressional budget cut.

What the model builders are trying to do is to manufacture as much of the structure as possible in big pieces or sub-assemblies in a factory, transport the factory-made units to the building site, and assemble the house in a jiffy. Some of the prototype builders plan to erect a building in a day or two.

Mass production increases output and cuts unit costs in a number of ways. Materials bought in bulk are cheaper than those bought in small quantities at "retail" prices. The use of semi-skilled labor in the factory and semi-skilled workers on site, instead of skilled craftsmen throughout, increases the effective supply and reduces the cost of labor. Overhead costs, such as designing, engineering, depreciation of machinery and equipment, become progressively less per unit of output as the volume of production increases. Reduction of construction time from several weeks or several months to a few days results in substantial savings of interest on capital, whether owned or borrowed. For these reasons, factory builders, using assembly-line techniques to produce sectionalized units or packages of materials for rapid on-site assembly, should be able to outproduce and undersell contractors using conventional methods.

Prior to Operation Breakthrough, a few of the large builders had already pioneered in large-scale production. Boise-Cascade, for example, with a production capacity of over 1,000 dwelling units a week, has wide experience in all aspects of the construction industry. Levitt Technology, likewise, has a reputation for standardization of parts and procedures and assembly-line production, which are the essence of mass production.

WAYS AND MEANS

Now, a house is basically a box divided by partitions into little boxes, each for specific family functions, such as cooking, eating, sleeping, and bathing—to mention only the most indispensable. Walls, floors, and ceilings are easily made in one piece as slabs or panels and delivered to the building site. This is the approach used by about half of the 22 producers selected by HUD.

Another approach is the modular; that is, the making of room-sized, three-dimensional modules or "boxes" which are hauled to the site where a crane lifts them off the flat-bodied truck and places them into position, vertically and horizontally, like children's building blocks. The module may be made of wood, stressed skin plywood, fiber-reinforced resin, pre-cast concrete, or it may be a mandrel-wrapped fiber shell made like a cocoon over a collapsible mandrel. In some systems a core containing the air conditioning, heating, bathing, and kitchen equipment is pre-fabricated and delivered to the building site as a complete unit. Among the 22 prototypes, there is an amazing variety of structural materials, building types, floor plans, and special features. For example, one builder offers sliding glass doors instead of windows; another features "room extenders" (half-sized modules, available from the factory as accessories); and another, a Swedish vacuum sewage system said to be very economical in water consumption.

As soon as the prototype units are completed, they will undergo testing and evaluation by the National Bureau of Standards, the Forest Products Research Laboratory, the National Academies of Science and Engineering, and private testing organizations. These tests are for the purpose of determining the quality of design, durability, and consumer acceptance of the various prototypes. Then comes the last phase of Operation Breakthrough; namely, to get volume production rolling toward that 1978 goal of 26 million units.

BREAKTHROUGH IS MORE THAN HARDWARE

Top officials of HUD fully appreciate that volume production calls for a mass market. "I believe," said Harold B. Finger, HUD's Assistant Secretary for Research and Technology, "that the lack of an aggregated, large, continuous, deliverable market is the greatest obstacle to significant change in our housing systems methods and to accelerating the application of industrialized housing and of improvements in our traditional building methods." Therefore, HUD is working with state and local officials, local housing authorities, private developers, and others to pool the market, pool their housing needs, and aggregate the available land as bases for large orders.

Volume production for volume markets certainly requires an overhauling of the thousands of old building codes designed to perpetuate the *status quo*. They stand in the way of new building materials, such as plastic pipe, and form an effective blockade to new technology, such as pre-cast concrete panels with built-in raceways for electrical connections.

Restrictive zoning laws also hinder volume production—not those designed to prevent commerical or industrial invasion of residential areas, but those used for social, economic, and ethnic discrimination. To all of these "software" aspects of industrializing residential construction, HUD is giving just as much attention as to the problems of "hardware." Indeed, the software problems are probably harder to handle than the hardware because dealing with people takes more tact than dealing with pipes and panels.

Organized labor, it was thought, might regard Operation Breakthrough as inimical to its vested interests, but the United Brotherhood of Carpenters and Joiners has already signed contracts to manufacture housing units on an assembly-line basis, using lower skilled workers at lower wage rates. This is a hopeful sign, but then, too, it might be noted here that only about half of the workers employed in residential construction are unionized.

ASSISTS FOR YOUR APPRAISAL

Can Operation Breakthrough succeed in doing for our much-needed housing what heretofore seven Presidents, 19 Congresses, and countless advisers and experts failed to do? Twenty-six million by 1978 without forcing the prices of housing into the stratosphere?

Perhaps. But it is a formidable assignment, full of difficulties for the high command of HUD.

First comes the cost of the land. Not labor and the laborlords, but land and the landlords. According to the McGraw-Hill Information Systems Division (formerly F. W. Dodge Company), one-fourth of the cost of building a single-family house is the cost of the land on which to build it. (The cost of the land, as the Table shows, is cut in half if you do not mind being stacked skyward in an apartment.)

Worse still, as already indicated, the price of raw land is the fastest rising element among all major housing costs. It tripled between 1950 and 1967, and there is nothing to stop it from going up. The supply is fixed, and the demand grows as population increases. Rising land values are socially created and individually enjoyed. There is much to be said in favor of taxing this unearned increment, but the mere suggestion often invites disdain for entertaining such impractical Henry Georgian theory.

Materials, accounting for 36 per cent of the total, are the largest single construction cost. However, with the growing scarcity and rising prices of lumber, builders are turning more and more to other structural materials, including synthetics. Furthermore, to the extent that residential construction goes large scale, considerable savings should accrue from buying materials in large quantities.

On-site labor, contrary to popular opinion, is not the major cost of residential construction. It is scarcely a fifth of the total cost. Nevertheless, whatever increase in labor productivity that can be attained by factory production and on-site assembly is all to the good for all concerned.

The shelter afforded by the shell of a house is regarded as its basic function, but a house is far more than shelter. A house does not become a home until it is equipped with wiring and piping and comfort-making machinery—electrical, heating, plumbing, and ventilating. The costs of these installations are considerably larger than the cost of erecting the shell or envelope.

Another thought: to build 26 million housing units, to add that number to the existing stock

ROUGH BREAKDOWN OF INITIAL DEVELOPMENT AND CONSTRUCTION COSTS (in per cent)

Item	Conventional single-family unit	Elevator apartment unit
Developed land	25	13
Materials	36	38
On-site labor	19	22
Overhead and profit	14	15
Miscellaneous	6	12[3]
Total	100	100

[3] The cost of hiring an architect is one principal reason for this higher figure.
Source: *McGraw-Hill Information Systems Technical Report.*

of 66 million, for an increase of about 40 per cent, will require much additional construction of roads and streets and power lines, gas lines and water lines, and sewer lines, because the occupants of the newly built residences will be in need of these public utilities. Electric power companies will also have to expand generating facilities, and some are scarcely able to meet current demands for kilowatts.

Our sewerage systems are in a sorrier state. About a third of the country's residences are still not connected to municipal sewers, and of those with connections, about one-fifth discharge untreated sewage, and a third or more of the treated sewage is given only partial treatment—open-air exposure in catchment basins. This is one reason so many of our rivers and lakes smell bad. Billions of dollars will have to be spent to make our cities and suburbs more livable. It is an old, old problem. Said Milton in *Paradise Lost:*

> As one who long in populous City pent
> Where Houses thick and Sewers annoy
> the Aire.

In trying to appraise the prospects for the success of Operation Breakthrough, we should remember that it is not solely an effort to reduce the cost of residential construction; it is primarily an effort to build 26 million housing units by 1978. In order to make six million of them available to low- and medium-income families, Congress will no doubt have to come across with more financial help, especially for families in the very lowest income brackets. The essence of the task is to devise a system or systems of construction to do the job within the allotted time in the face of a serious shortage of skilled labor and materials.

THE MAGNITUDE OF IT!

"We have only begun to confront our major housing problems," said HUD Assistant Secretary for Research and Technology. "Housing development continues to be plagued by soaring costs of land, labor, materials, and money." It continues to be plagued also by local resistance to change in building codes, objections to construction of low-cost housing, and even withholding permission to erect prototype structures by some of the selected cities. "But," continued HUD's Assistant Secretary, "we know what obstacles we face, and we are seeking an even clearer definition of those obstacles. Just as success in a space mission depends upon full exploration of existing and potential problems, so does success in Operation Breakthrough—a housing problem."

The final question: Can the quest for a solution to the housing problem be made as dramatic, as important, as urgent as reaching for the moon?

Should Housing Be Sheltered From Tight Credit?

by Ira Kaminow

Housing took it on the chin in 1966 and again in 1969. It is now part of the conventional wisdom that the culprit responsible for these blows can be found lurking in the nation's financial policy. Both 1966 and 1969 were years in which the Federal Reserve put the screws on the money supply. The view that restrictive monetary policy and tight credit markets bear down heavily on housing is not new. What may be new, however, is a rising national commitment to housing. In many quarters this commitment has led to increased concern over housing's fate during periods of tight credit. The cries to "insulate" housing from the more severe impacts of changes in financial markets seem to grow louder and more frequent. But the noisier the cries get, the more they elicit responses from those who would follow a hands-off policy, a policy of allowing the forces of free enterprise to channel the "correct" amount of credit into housing.

Unfortunately, the defenses and offenses of the combatants in this dispute are not always backed by the firm understanding of credit markets that is required to help either the housing industry or the general economy. For example, many people on both sides do not realize that restrictive monetary policy is a two-armed beast that quietly gives housing a lift in the credit markets some months after each noisily acclaimed pinch. Others close their eyes to the experience of the past. This makes it even more difficult than otherwise to see the meaning of current developments. In many ways our recent experience with tight credit markets has been similar to earlier experiences. But there are important differences that bear heavily on the policies we should follow. A vaild discussion of the issues requires an understanding of these and other relevant points.

CREDIT MARKETS AND HOUSING: THE LOGICAL LINKS

Who Gets Squeezed When Credit Gets Tight? When credit markets tighten (when the supply of credit falls or demand expands), some sectors will have to tighten their belts more than others.[1] If the firms in an expanding industry want more credit, for example, they will try to bid funds away from current borrowers. If monetary policy causes the supply of credit to shrink, there will be a scramble over the smaller credit pie. Borrowers in some sectors will be more successful than others in holding on to their slice. The question is not whether tight credit markets will affect some sectors more than others, but which ones will suffer the greatest impacts.

Common sense tells us that the least persistent demanders of credit will be the first to fall by the wayside. As demand begins to exceed the supply of credit, the upward movement of interest rates will squeeze the less "serious" credit demanders out, and the limited funds will flow only to groups that "hang on" in the face of rising interest rates.

Of course, demand is only one side of the story. Even very persistent demanders can get cut out of a tight credit market if they rank low on lenders' preferences. Credit suppliers see some borrowers as marginal customers to be accommodated only after more desirable investment opportunities have been exhausted. When credit tightens, these borrowers will be the first ones dropped unless they offer bigger increases in interest rates than other customers. When credit markets tighten up, the demand of these borrowers must be particularly immune to rising interest rates if they are to hold their own.

The Squeeze on Housing. Housing experts have looked into this supply and demand framework to see where housing could be expected to wind up in times of tight credit. Using logic and their knowledge of the credit markets, many have speculated that housing would get a larger share of the nation's credit when financial markets were easy and a smaller share when financial markets tightened. The arguments in support of this speculation often get fairly complicated. Most of them, however, involve two or three basic points. First, there is some evidence that the demand for mortgages is sensitive to changes in interest rates. This is not surprising, since interest costs represent a large percentage of the costs of housing, so that borrowers are very responsive to relatively small changes in interest rates. On a $20,000, 30-year mortgage, a difference of one percentage point means $5,000 more over the life of a mortgage. Second, mortgage borrowers are sometimes restricted from offering rates as high as they would like. Both state usury laws and FHA-VA interest rate limits are occasionally below market rates.

On the supply side, many analysts believe that bankers would rather cut back on loans to households than loans to businesses when the going gets tough. This belief rests on the assumption that bankers would rather maintain the more complete, ongoing banking relation with a corporation than start a new limited one with an individual. In addition to the banks' lending services, corporations maintain check-

[1] We are discussing here why some sectors find that their share of the nation's credit falls when financial markets tighten. The other side of this coin is the equivalent question, why do these sectors find that their share of credit rises when financial markets ease? Our discussion is limited to the tight credit side of the coin because this seems to be the cause of most of the concern from the point of view of the housing issue. The reasons that explain one side of the coin explain the other.
We will return to this point in the conclusion.

ing accounts, use international credit services, and so on.

To some extent, savings and loan associations were designed to help even out the fluctuations in the supply of mortgages. Savings and loan associations are severely restricted in the kinds of loans they are permitted to make, and most of their loans must be mortgage loans. This means that they will not be shifting in and out of the mortgage market as much as other kinds of lenders. Unfortunately, there is a potential drawback to the plan that grows out of its strength. By limiting the kinds of loans that savings and loan associations can make, their fortunes are tied to these loans. If, as we suggested earlier, mortgage borrowers are easily driven off by rising interest rates, mortgage rates will not rise very much when credit tightens. Therefore, saving and loan associations will not have as much incentive as other lending institutions to try to capture funds during periods of tight credit. If this happens, there will be a general decline in the inflow of savings to these thrift institutions when financial markets tighten. Since these institutions make so many mortgage loans, the supply of mortgages will necessarily suffer. (Another reason for a possible change in the flow of funds into savings and loan associations during periods of tight credit is discussed in the accompanying box.)

MORE ABOUT SAVINGS AND LOAN ASSOCIATIONS AND CREDIT MARKETS

A traditional explanation of why savings and loan associations (and mutual savings banks) might not compete very vigorously during periods of tight credit has it that thrift institutions buy long-term assets, such as mortgages. Consequently, when they make loans, they commit themselves for many years to the interest rates that prevail when the loans are made. During periods of tight credit, interest rates are rising, so the old assets of the thrift institutions bear interest rates that are relatively low. The argument concludes from this that the savings and loan associations are unable to raise the rates they pay depositors very much, for fear of cutting profits and perhaps turning them into losses.

The popularity and persistence of this line of thought is extremely surprising in view of the fact that it ignores two fundamental conclusions of economics. The first is that the savings and loan association, like any other business, is subject to the discipline of the market. No association can necessarily avoid losses simply by holding down the rate it pays to depositors. It must recognize that the lower the rate it pays, the fewer deposits it will have. If the rate it pays is too low, deposits will drop below the level necessary to finance mortgages outstanding, and the association will be driven out of business.

The second fundamental conclusion ignored is that bygones are bygones. When a savings and loan association decides whether to raise the rate it will offer on deposits, it takes into account two factors: the total anticipated increase in costs if interest rates are raised and the total anticipated increase in income that can be earned on the increased inflow of funds. If costs are expected to go up by less than income, the association will raise the rate; otherwise, it will not. If the savings and loan association chose not to raise the rate it pays on deposits despite the fact that the anticipated increase in income would exceed the increase in costs, it would forego a chance to increase profits (or reduce losses). And this is true *regardless of the income it earns on mortgages outstanding.*

The fact that savings and loan associations may be stuck with low-yield mortgages is not, of course, inconsequential. The lower the income on mortgages held, the more likely that associations will have to forget about profits altogether and simply concentrate on cutting losses.

The low-yielding mortgages may therefore lead to widespread closings of savings and loan associations unless some shelter is provided against the storms of the market. The ceilings recently imposed on interest rates that can be paid to depositors is a step in this direction. These ceilings prevent successive rounds of rate increases that merely shift funds from one association to another. But they also prevent the industry from competing against other credit users for funds.

In part this disadvantage is being offset by a number of other regulations and Government programs. For example, the ability of commercial banks to bid deposits away from savings and loan associations is limited by interest-rate ceilings on commercial bank savings deposits. Moreover, the Federal Home Loan Bank Board is empowered to make loans to savings and loan associations so that the associations have a source of funds to supplement the more traditional deposit sources. Another major assist given to the savings and loan associations is provided by the Federal National Mortgage Association (FNMA or Fanny Mae). FNMA purchases Government-guaranteed mortgages (FHA-VA) from savings and loan associations.

Monetary Policy and Credit Markets. If the condition of credit markets influences housing's fortunes, so does the state of monetary policy. The initial impact of restrictive policy reduces the supply of credit (tightens credit markets) and the initial impact of expansionary policy increases the supply of credit (eases credit markets).

If monetary policy is successful, however, there are delayed impacts on credit markets that tend to reverse the initial influences. Successful expansionary policy means more business activity, a greater demand for credit, and, therefore, tighter credit markets. Successful contractionary policy reduces business activity, which removes demand pressures from credit markets and so eases them.

The delayed impacts of monetary policy on the credit markets make the total impact of monetary policy on housing very difficult to judge. If tight credit drives housing out of the credit markets, an unchecked boom that leads to an overheated economy will not help the cause of housing. A restrictive monetary policy might further tighten credit markets for a while, but it eventually will cool the economy down to a more sustainable pace and draw off some heavy demands from the financial markets. Housing will probably be a big gainer from this kind of restrictive policy. An overly easy monetary policy might give housing a temporary boost in the credit markets. If the policy leads to excessive boom and inflation, however, housing will eventually be forced to pay the piper.

CREDIT MARKETS AND HOUSING: HISTORICAL LINKS

So far we have been using logic and an understanding of financial institutions to speculate on the relation between housing and credit markets. This kind of analysis is essential, but it is not enough. A complete picture of the links connecting the two sectors demand a look at historical experience to provide a check on the logical arguments.

Measures of Credit Market Conditions. It is one thing to talk about changing demand for credit and shifting monetary policy. It is quite another to measure them. This is what we must do to examine the historical connection between events in the financial sector and housing's share in the nation's credit. Among all the alternative measures, none stands out as being universally accepted by economists. Rather than get bogged down in the very difficult chore of selecting the best, three were selected more or less arbitrarily. It is probably true that other measures would point to roughly the same conclusions that are suggested by these three. The measures are the following: the rate of growth of the money supply for the state of monetary policy; the unemployment rate for the demands on credit markets; and free reserves for the general state of credit markets. (See box below for further discussion.)

THREE MEASURES OF CONDITIONS IN CREDIT MARKETS

Money Stock. Among the most popular measures of monetary policy is the rate of growth of the money stock. Federal Reserve policies designed to expand the economy lead to an increase in the rate of growth of the money stock; policies designed to slow down the economy reduce rate of growth in the money stock. Unfortunately, the money stock is influenced, in part, by forces outside the Federal Reserve. Its growth rate may therefore accelerate or decelerate with no change in Federal Reserve policy. This means, of course, that it is an imperfect measure of monetary policy.

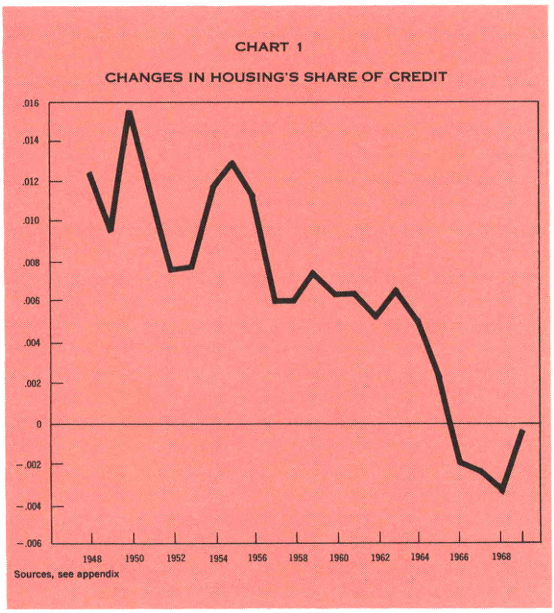
Unemployment Rate. The demand for credit obviously depends on many factors. One of the most important is the level of business activity. When business is booming, corporations and individuals need credit to carry on their affairs; when the economy slows, the demands on credit markets are reduced. Almost any measure of business activity would provide an indication of the pressures on credit markets. We will use the unemployment rate. A low unemployment rate means high production and strained credit markets; a high rate means sluggish business and easy credit markets. Because factors other than the level of business activity influence the demand for credit, neither the unemployment rate nor any other measure of business activity will be a perfect measure of the demand strains on credit markets.

Free Reserves. Banks that are members of the Federal Reserve System (as other banks) are required to maintain some of their assets in the form of idle reserves. The excess of the actual reserves over the legally required reserve holdings for member banks are their *excess reserves.* When member banks find that their actual reserves are below the legal requirement, they may borrow reserves from the Fed. One measure of the state of member banks is the difference between their excess reserves and borrowed reserves—*free reserves.*

Many economists believe that free reserves give a fair indication of general conditions in credit markets. When conditions in the credit markets tighten, banks find that the opportunities for lending become very attractive, and the idea of holding a lot of idle reserves in excess of the legal requirement becomes very unattractive. Moreover, the better loan possibilities inherent in tight credit markets encourage banks to borrow from the Fed so that they might relend these borrowed funds to customers.

In short, tight credit induces banks to hold fewer excess reserves and borrow more, resulting in low free reserves. Easy credit induces higher free reserves—more excess reserves and less borrowing. Like the other two indicators, free reserves is not a perfect measure because it reflects only a part of the total source of change in credit market conditions. In particular, it guages only banks.

The History of Housing's Share of Credit. One way to find out how housing has fared during periods of tight and easy credit is to examine its share of all debt outstanding.[2] Chart 1 shows the changes in housing's share of the nation's credit from 1948 through 1969. The most recent fluctuations in housing's share of credit are by no means consistent with the "conventional wisdom" that monetary policy works particular hardships on housing. According to Chart 1, the most recent decline in the rate of growth in housing's share of credit began in 1964, two years before the 1966 credit crunch.[3] It continued its nosedive in 1967 and 1968, both years of easy monetary policy. There was a rebound in 1969, but that was a year of tight credit.



[2] See the appendix for a description of the data used in this paper.

[3] All the Charts presented in this paper refer to *changes* in housing's share of credit. A positive value, therefore, means an increase in housing's share of credit. A series of declining but positive values mean, of course, a declining rate of growth.

Chart 2 allows a more comprehensive look at the relation between conditions in the nation's financial markets and changes in housing's share of credit. (In order to concentrate on the shorter run movements, the trend has been removed from the series showing housing's share of credit.) A careful look at the three panels of Chart 2 shows that *some* sharp movements in the changes in housing's share of credit have taken place at about the time of sharp changes in our measures of credit market conditions. The periods 1948-1957 and 1963-1966 provide good examples of these movements. Nevertheless, there were substantial periods (1957-1963, 1966-1969) when there was almost no similarity between credit market conditions and housing's share of credit. We should not be too disappointed at these failings, for the simple analysis that we have used here cannot be expected to answer all the questions. However, the data hide a much closer historical relation between conditions in the financial markets and changes in housing's share of the nation's credit. Fortunately, we do not have to go much further to shake this connection out of the data.

A Further Look at the Evidence. The flow of mortgage funds through financial institutions can be dammed up at two points: (1) the point where funds flow into the financial sector; and (2) the point where funds flow from the financial sector out to home buyers. In the first case, there can be a redistribution of funds away from institutions that traditionally supply a great deal of mortgage loans. In the second, there can be a tendency for lending institutions to move away from mortgages and towards other assets. Changes in housing's share of credit can therefore be divided into two parts: first, the part that is due to changes in funds going to each kind of financial institution; and, second, the part that results from financial institutions changing the kinds of credit they extend.[4]

[4] This scheme of partitioning changes in housing's share of credit into two elements is not strictly correct. Some mortgage funds bypass the financial sector completely. Moreover, some financial institutions that account for a small fraction of mortgages have been included in the nonfinancial sector. All data and calculations take account of these imperfections, but they are left out of the discussion.

On the surface, movements in the two components bear little resemblance to each other. However, a comparison of the first component in any year with the second component *in the following year* reveals a fairly strong resemblance. (See Chart 3.)

This could mean that some of the important factors that influence inflows into financial institutions also tend to influence the institutions'

CHART 2

CHANGES IN HOUSING'S SHARE OF CREDIT (DETRENDED) AND CONDITIONS IN CREDIT MARKETS

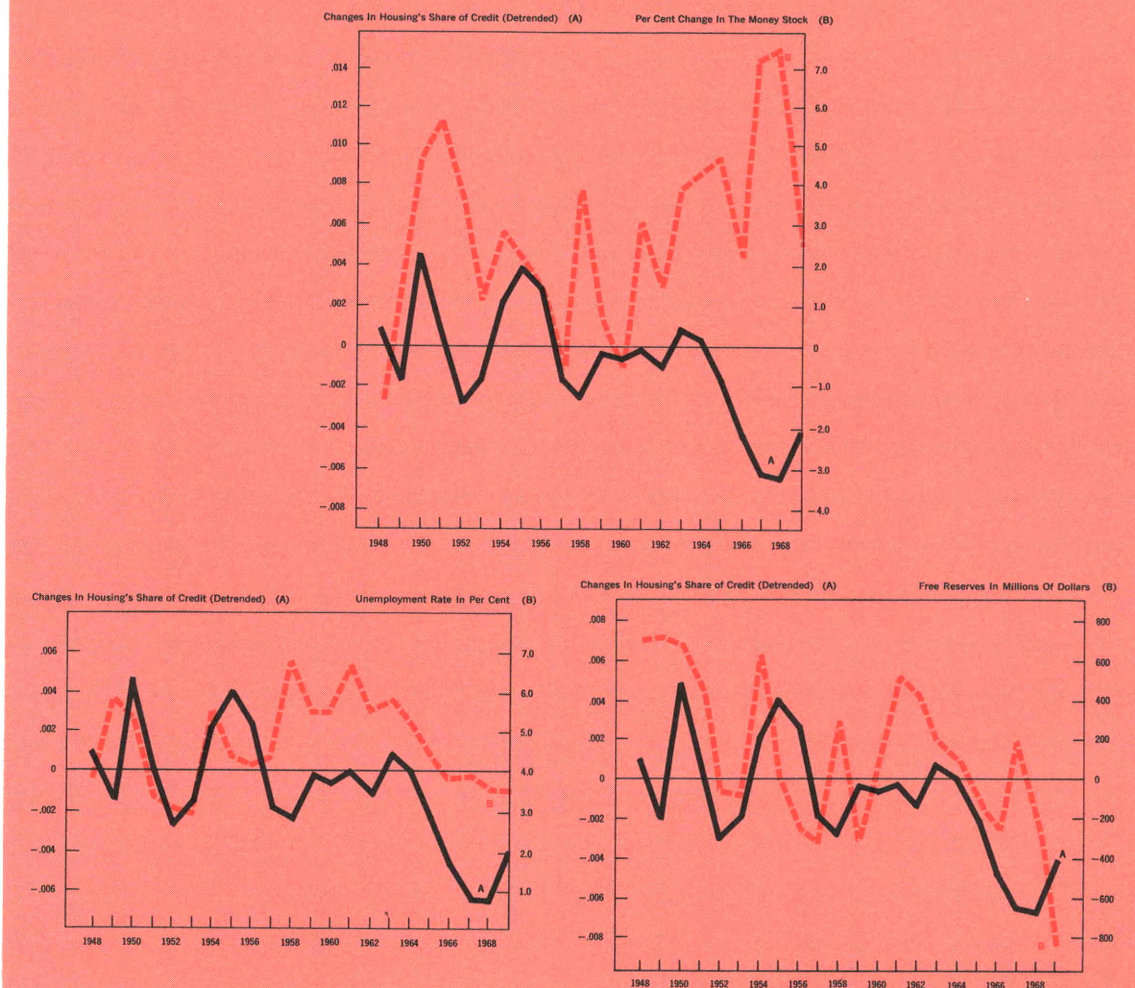


CHART 3

CHANGES IN HOUSING'S SHARE OF CREDIT DUE TO CHANGES IN FLOWS OF FUNDS INTO FINANCIAL INSTITUTIONS (A) AND CHANGES IN HOUSING'S SHARE OF CREDIT DUE TO CHANGES IN FINANCIAL INSTITUTIONS' INVESTMENT MIX, LAGGED ONE YEAR (B)

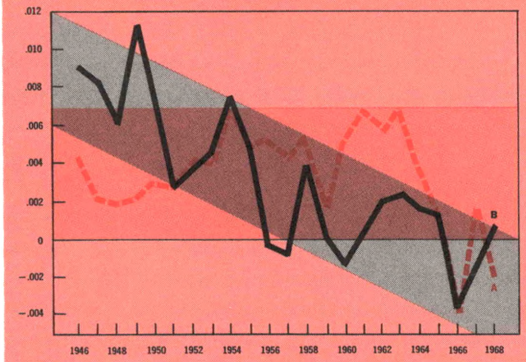
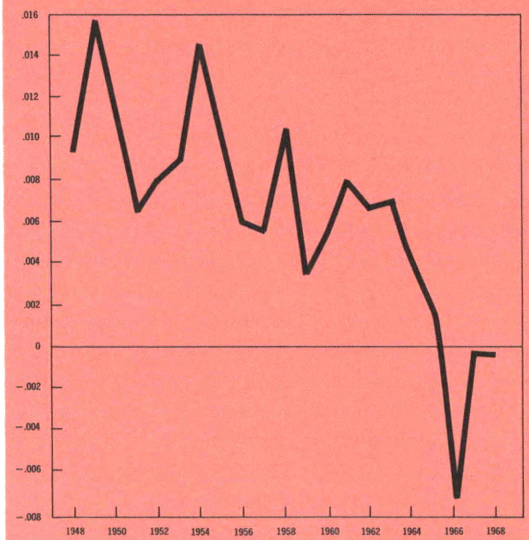


CHART 4

CHANGES IN HOUSING'S SHARE OF CREDIT (ADJUSTED)



decisions regarding their investment in mortgages, but with a lag of one year. In part this delay may result from mortgage commitments. Builders often ask lenders to commit themselves to mortgages long before construction is completed and the loan is made.

Chart 4 shows changes in housing's share of credit adjusted for the delayed response of the investment policies of financial institutions. It is a crude guess about what would have happened to housing's share of credit if there were no delay on the part of the financial institutions.[5] A comparison of Charts 1 and 4 allows an evaluation of the impact of the delay on housing's place in the credit markets. From 1957 through 1964, for example, the existence of the lag seems to have smoothed out some of the fluctuations. (Chart 1 is more even than Chart 4 over this period.) In more recent years, the delay extended some of the effects of the 1966 credit crunch into 1967.

Chart 5, like Chart 2, compares the detrended change in housing's share of credit with measures of credit market conditions. This time, however, housing's share of credit has been adjusted as in Chart 4. A look at Chart 5 leaves little doubt that housing's share of credit is tied to general credit conditions. During the years from 1951 through 1961, all three measures told roughly the same story about what was happening in the credit markets. In this period, changes in housing's share of credit (adjusted) went up and down as credit eased and tightened. At no time in the postwar period was there a strong, consistent move in credit conditions not matched by a predictable movement in housing's share of credit (adjusted).

Chart 5 clears up many of the problems raised by Chart 2. In terms of our most recent experi-

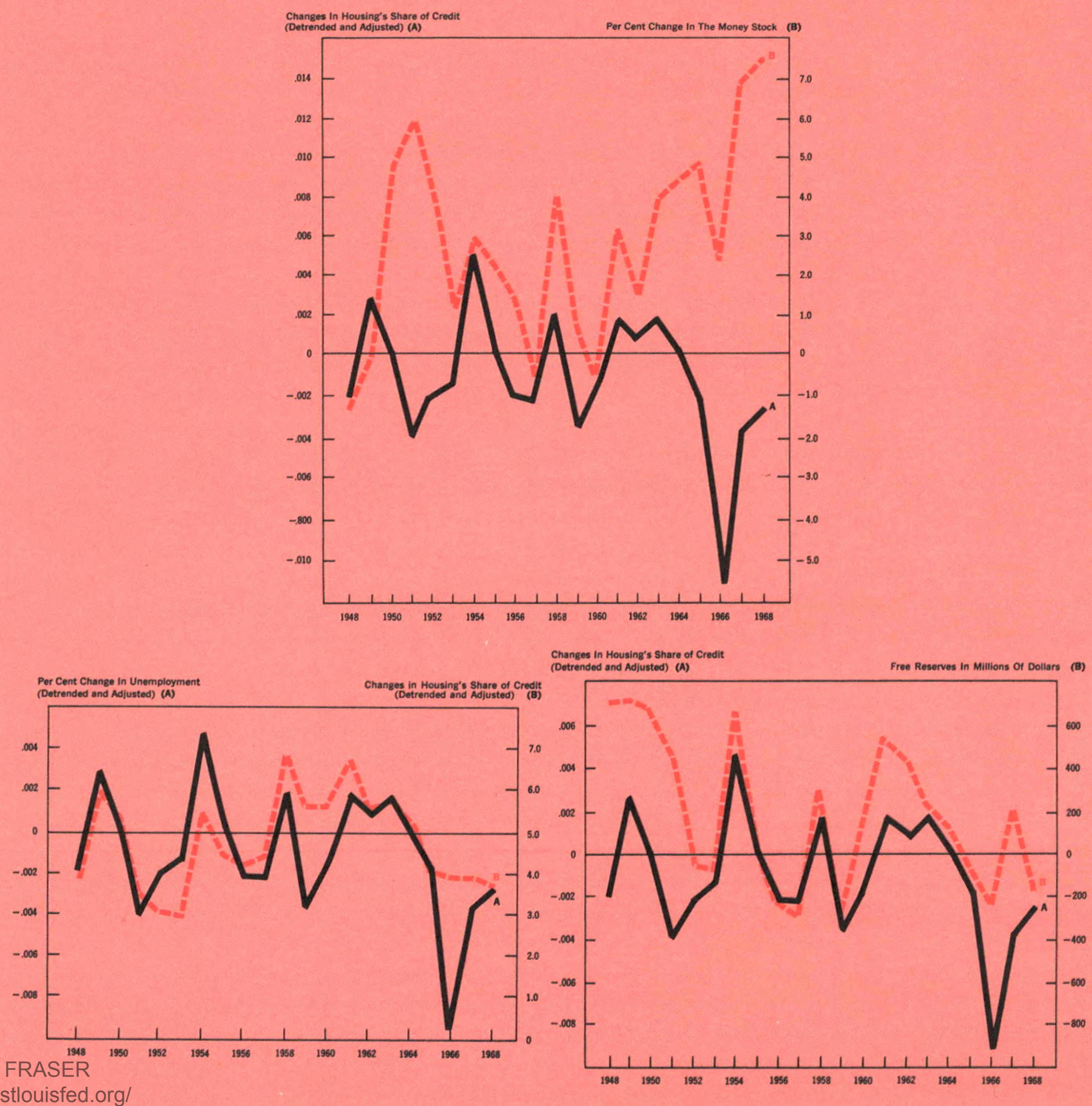
[5] Unfortunately, the nature of Charts 4 and 5 make it impossible to look at 1969 until the data for 1970 are in. This means that we are forced to leave the year, 1969, as well as 1970 out of our discussion. A number of important developments have taken place during these years that involve a rapid growth of importance in the Federal Home Loan Bank Board loans and Federal National Mortgage Association activity. We must wait for the data to analyze these developments.

ence, however, it raises one very interesting issue. The 1966 decline in the change in housing's share of credit (adjusted) is perfectly consistent with the troughs in free reserves and the rate of growth in the money supply. But the depth of the trough was far greater than any previous experience would have suggested.

To learn why this is so would require a very comprehensive analysis. However, Chart 3 points to the source of the deep 1966 trough. Up to 1965, the change in mortgage's share of credit resulting from flows into mortgage lenders had fluctuated within a well-defined range. In 1966, for the first time, investment by savers shifted away from the savings and loan associations to such a great extent that the change in housing's share of credit resulting from changes in the flow of funds into financial institutions

CHART 5

CHANGES IN HOUSING'S SHARE OF CREDIT (ADJUSTED AND DETRENDED) AND CREDIT MARKET CONDITIONS



broke out of its normal range, sharply and in a downward direction. On the other hand, the change in housing's share that resulted from the investment policies of financial institutions stayed within its historical range.

The sharp 1966 decline in housing's share of credit is tightly linked to the rather extreme actions of savers in 1966. One way to explain savers' behavior is the imposition of ceilings on the rates that savings and loan associations and mutual savings banks were allowed to pay depositors from 1966 on. This made it difficult for them to compete actively for funds in the nation's credit markets. Because of this, housing's share of credit was greatly depressed in 1966. When short-term interest rates began to ease in 1967, the burden of these interest ceilings was relaxed, and funds began to flow back into thrift institutions much more rapidly than they otherwise would have. Therefore, at least part of the 1966 trough seems to stem from the newly imposed ceilings.

This does not necessarily mean that the ceilings were a bad idea. In the years prior to 1966, interest rates had risen so fast that savings and loan associations found themselves stuck with a large number of old mortgages whose interest rates bore no similarity at all to the rates prevailing in 1966. There was some danger that if savings and loan associations were allowed to compete with each other for funds, they would drive the rates they paid depositors too high relative to their earnings on outstanding mortgages. If this situation went too far, many savings and loan associations might have gone out of business. This would have been catastrophic for the housing industry.

CONCLUSIONS

The discussion over what to do about housing and tight credit is fraught with a great deal of emotion. Many people believe that adequate housing is not an ordinary commodity but a necessity for human decency. The emotional pitch seems to have risen to higher levels in recent years. This is due in part to the recent increase in concern over national goals and in part to the very severe beating housing took in 1966 and 1969. Whatever the merits of the case for a high priority in housing, we should examine the linkage between housing and events in the credit markets dispassionately.

Housing Has Ups as Well as Downs. Like other industries, housing has its ups and downs. Too frequently, however, the spotlight shines on the downs. We are more aware of the relation between tight credit and hard times for housing than the good times that come with easy credit. The real issue is not that housing is hurt when credit tightens—it probably makes most of that up when credit eases. The real issue is that housing production is so variable, an endless cycle of feast followed by famine.

Is this good or bad? If we take a narrow but not necessarily incorrect view, it is obviously cheaper to produce houses at a steady pace than in the boom-bust fashion we have experienced. Firms are not required to pay a lot of overtime one month and then lay people off a few months later. On the workers side, there is more job security with steady production than with the fits and starts of the current situation. What is true for housing construction firms is true for resource suppliers like lumber firms as well. If the building materials industries have more even production, they face fewer start-up and close-down costs.

Taking a somewhat broader view, there is a counterbalance to this argument. When strains on the supply of any resource develop, the market will allocate the supply according to the urgency of demand. If credit markets tighten, credit will be allocated so that those whose need is most urgent—those that are most willing to pay the rising interest rates—get credit. Many argue that housing is hurt so much when credit tightens because society finds it very expendable. Each of us balances his wants against his income to decide which products will be purchased. As a market society, we are very sensitive to rising interest rates on mortgages because, *as individuals,* we would rather cut back on housing than on other products when credit gets tight. In this broader view, if anything has to go because of tight credit we, as individuals, have decided that it should be housing. Not everyone agrees with this point of view. Many people believe that housing should not be allocated strictly by market forces. In part, this view reflects a dissatisfaction with the way income is distributed; in part, it reflects a suspicion that the markets in twentieth century America are too imperfect; and, in part, it reflects a general mistrust of the market system.

Monetary Policy and Housing. An important conclusion we reached suggests that the impact of restrictive monetary policy is not so clear-cut as some believe. Great weight is frequently given to the fact that a restrictive monetary policy cuts back on the supply of credit and so hurts housing. We often ignore the fact that successful restrictive monetary policy cools down an overheated economy and draws off some of the demands on credit markets.

Chart 5 shows that changes in housing's share of credit (adjusted) have followed general business conditions (as measured by the unemployment rate) much more closely than they have followed monetary policy (as measured by the growth in the money supply). This suggests that general business conditions might be more important in determining housing's success in credit markets than is monetary policy. Consequently, a restrictive monetary policy that eventually cools off the economy may do housing more good than harm.

Many economists agree with the idea that restrictive monetary policy will eventually help housing in credit markets. Some of them argue, however, that we can reduce part of the initial harmful effects without sacrificing beneficial longer run impacts of restrictive monetary policy on housing. The method is to use fiscal policy more frequently to stabilize the economy. Fiscal policy, which operates through Government expenditures and taxes, need not exert the same initial impacts on credit markets that monetary policy exerts. More fiscal policy, they argue, would allow us to control the economy and eliminate some of the gyrations in the housing industry.

Of course, fiscal policy will also hurt some sectors more than others. It is not even clear that housing would come out very much better under fiscal policy than under monetary policy. If we find housing so expendable that it is among the first to go during tight credit conditions, perhaps it will also be among the first to go when fiscal policies are restrictive. In any event, it might be a good idea to learn which sectors will suffer at the hands of restrictive fiscal policy. Perhaps fiscal policy suffers as much from strong sectoral impacts as does monetary policy.

TECHNICAL APPENDIX

1. Computation of components of changes in housing share of credit:

Let M be total mortgages outstanding and A be total debt owed by the nonfinancial sector. M_1, M_2, M_3, M_4, and M_5 are mortgages held by commercial banks, savings and loan associations, mutual savings banks, life insurance companies, and "others" respectively. A_1, A_2, A_3, A_4, and A_5 are total financial assets of each of the five categories of mortgage holders. A is total credit market debt owed by nonfinancial sectors.

$$\frac{M}{A} = \frac{M_1}{A_1}\frac{A_1}{A} + \frac{M_2}{A_2}\frac{A_2}{A} + \frac{M_3}{A_3}\frac{A_3}{A} + \frac{M_4}{A_4}\frac{A_4}{A} + \frac{M_5}{A}$$

The change in housing's share due to inflows to financial institution is approximated by:

$$I = \Sigma \frac{M_i}{A_i} \Delta \frac{A_i}{A} \qquad i = 1, \ldots, 4.$$

The change in housing's share due to investment policies of financial institutions is approximated by:

$$P = \Sigma \frac{A_i}{A} \Delta \frac{M_i}{A_i} \qquad i = 1, \ldots, 4.$$

2. Computation of changes in housing's share of credit (adjusted):

Let $I(t)$ and $P(t)$ be the values of I and P (defined above) in period t and $B(t)$ be the change in housing's share of credit due to flows that bypass financial institutions.

The change in housing's share of credit (adjusted) in period t is:

$$S(t) = I(t) + P(t\text{-}1) + B(t).$$

3. Data sources:

M_1, M_1, M_2, M_3, M_4,: *Flow of Funds,** pp. 66-67.

$M_5 = M - M_1 - M_2 - M_3 - M_4$

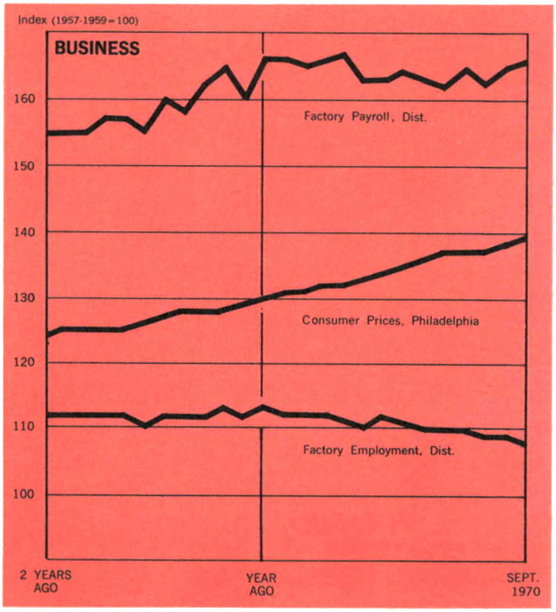
C_1, C_2, C_3, C_4: Total financial assets of commercial banks, savings and loan associations mutual savings banks and life insurance companies respectively. *Flow of Funds,** pp. 58-63.

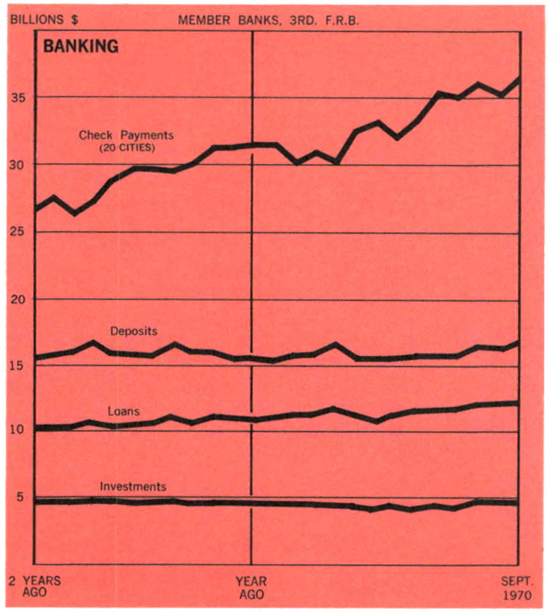
A: Credit Market debt owed by nonfinancial sectors. *Flow of Funds,** pp. 66-67.

* *Flow of Funds Accounts 1945-1968,* published by the Board of Governors of the Federal Reserve System. Where data in this volume has been revised, the revisions were used.

Free reserves, money supply, and unemployment rate data were obtained from official sources.

FOR THE RECORD...





SUMMARY	Third Federal Reserve District			United States		
	Per cent change			Per cent change		
	Sept. 1970 from		9 mos. 1970 from	Sept. 1970 from		9 mos. 1970 from
	mo. ago	year ago	year ago	mo. ago	year ago	year ago
MANUFACTURING						
Production	....	....	....	+ 1	− 7	− 3
Electric power consumed	+ 1	0	+ 2	....	....	....
Man-hours, total*	0	− 5	− 4	....	....	....
Employment, total	0	− 3	+ 2	....	....	....
Wage income*	+ 1	0	+ 2	....	....	....
CONSTRUCTION**	−14	+31	+26	−13	+ 6	+ 1
COAL PRODUCTION	+10	+17	+ 1	+ 1	+13	+ 7
BANKING						
(All member banks)						
Deposits	+ 4	+10	+ 1	+ 5	+10	+ 1
Loans	+ 2	+10	+ 7	+ 1	+ 5	+ 5
Investments	+ 3	+ 4	− 6	+ 2	+ 9	− 2
U.S. Govt. securities	+ 1	0	−10	+ 1	+ 6	− 7
Other	+ 5	+ 7	− 2	+ 3	+11	+ 2
Check payments***	+ 5†	+18†	+14†	0	+ 8	+11
PRICES						
Wholesale	....	....	....	+ 1	+ 4	+ 4
Consumer	+ 1‡	+ 7‡	+ 7‡	0	+ 6	+ 6

*Production workers only
**Value of contracts
***Adjusted for seasonal variation

†15 SMSA's
‡Philadelphia

LOCAL CHANGES Standard Metropolitan Statistical Areas*	Manufacturing				Banking			
	Employ-ment		Payrolls		Check Payments**		Total Deposits***	
	Per cent change Sept. 1970 from		Per cent change Sept. 1970 from		Per cent change Sept. 1970 from		Per cent change Sept. 1970 from	
	mo. ago	year ago	mo. ago	year ago	mo. ago	year ago	mo. ago	year ago
Wilmington	+ 4	− 4	+15	+ 3	− 6	+ 1	+14	+11
Atlantic City	....	....	....	....	+ 4	+19	+ 1	+20
Trenton	0	− 4	− 2	− 1	− 4	+21	+ 3	+30
Altoona	− 1	− 5	− 3	− 6	+ 6	+ 8	+ 2	+ 9
Harrisburg	+ 1	0	− 1	+ 1	+ 4	+ 9	+ 2	+44
Johnstown	− 2	− 6	+ 7	0	+13	+11	+ 1	+11
Lancaster	− 1	0	− 4	0	+ 4	+11	+ 1	− 4
Lehigh Valley	− 1	− 2	+ 1	+ 2	+ 3	+ 3	+ 5	+13
Philadelphia	0	− 6	0	− 3	+ 9	+24	+ 5	+14
Reading	0	− 3	+ 4	+ 2	+ 3	+11	+ 3	+11
Scranton	0	− 9	0	−10	+ 2	+ 1	+ 1	+11
Wilkes-Barre	+ 4	− 2	+ 4	+ 2	+ 5	+ 8	+ 2	+ 4
York	+ 1	− 1	− 1	0	+14	+11	+ 1	− 5

*Not restricted to corporate limits of cities but covers areas of one or more counties.
**All commercial banks. Adjusted for seasonal variation.
***Member banks only. Last Wednesday of the month.